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BIOLOGICAL SCIENCES COMMUNICATION PROJECT

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ETHYLENE OXIDE

a bibliography

by the

Biological Sciences Communication Project

of

The George Washington University

PREFACE

This bibliography was compiled for the Office of Planetary Quarantine, NASA Headquarters, in order to provide scientists and engineers with background material on the uses and applications of ethylene oxide gas. Present plans call for a decontaminating cycle of ETO to be applied to spacecraft surfaces following environmental testing. For background information the reader is referred to the excellent reviews of Bruch (ref. 14), Opfell (ref. 75), Phillips and Kaye (ref. 89) and Phillips and Warshowsky (ref. 90). Interest in the sterilizing effects of ETO stems from the fact that it is effective against all types of organisms (slower sporocidal activity), has good penetration ability and diffusion rate, is easily removed through adequate ventilation, and is suitable for items that cannot be sterilized by heat. Its drawbacks include flammability, toxicity and a requirement for special equipment. The effectiveness of ETO as a sterilant is closely dependent on such factors as concentration, time of exposure, temperature, and relative humidity of the environment.

Most of the citations listed were drawn from the card files of the BSCP and from NASA contractor reports (32% of the citations were from NASA-sponsored research). Indicative of recent interest in gaseous sterilization is the fact that almost half of the citations included in this report were published within the past four years.

It is hoped that this bibliography will serve as a guide for future directed research as well as point out areas adequately covered in the past. In addition, it should be a means to identify individuals and laboratories most closely associated with the subject of ethylene oxide sterilization.

II. ETO Bibliography

BIBLIOGRAPHY

on

APPLICATIONS OF ETHYLENE OXIDE

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NSR-09-010-027

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III. Permuted Index

Key words in the title of each of the articles referenced in this work have been rotated to the beginning of the title and alphabetized.

Thus, if one should search for "Resistance of plastics to ethylene oxide" it would appear alphabetically at the beginning of the line for all titles in which it actually occurs.

The number at the right refers to the bibliographical citation number.

IV. Author Index

The following is a listing of all authors, whether senior, sole or one of multiple authors whose works are cited in this bibliography. The numbers at the right refer to the bibliographical citation number.

AUTHOR INDEX